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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/890,409      | 10/22/2001  | Marco Cantu'         | 07040.0100          | 1782             |

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| EXAMINER |
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MAKI, STEVEN D

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| ART UNIT | PAPER NUMBER |
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1733

DATE MAILED: 04/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 09/890,409             | CANTU' ET AL.       |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Steven D. Maki         | 1733                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 29-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 29-56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Hitzky

3) **Claims 29-31, 33-39, 49, 53 and 54 are rejected under 35 U.S.C. 102(b) as being anticipated by Hitzky (US 5580404).**

As to claim 29, the claimed tire is anticipated by Hitzky's tire having the tread pattern shown in figure 6. The tread includes a central circumferential groove on the EP and two lateral circumferential grooves which define a four block row tread including shoulder blocks and intermediate blocks ("central blocks") The shoulder grooves are inclined in a direction opposite that of the central grooves. The central blocks have an axially width of 19-27% TW. Each block has blind shaped sipes. Hitzky states: "A 'sipe' is a groove having a width in the range from about 0.2% to 0.8% of the tread width. Sipes are typically formed by steel blades, having a width of 0.4 to 1.6 mm ..." (column 2 lines 54-56). As can be seen from figure 6, each sipe cross the median plane of the block.

In claim 29, the claimed "first transverse notch" reads on the blind sipe of Hitzky.  
Claim 29 fails to require the first transverse notch to have a width greater than 1.6 mm.

As to claim 30, Hitzky inclines the central grooves at an angle of for example 55 degrees.

As to claim 31, Hitzky's blocks have parallel sides since the circumferential grooves are straight.

As to claim 33, Hitzky's sipes have similar dimensions. See for example figure 6.

As to claim 34, Hitzky inclines the shoulder grooves at an angle of for example 55 degrees.

As to claims 35-39, Hitzky locates two sipes in each center block.

As to claim 49, one of ordinary skill in the art would readily understand that pitches are repeated in Hitzky since Hitzky describes only three pitches.

As to claim 53, note the shape of Hitzky's blocks.

As to claim 54, note the position of the sipes shown by Hitzky.

**4) Claims 32 and 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hitzky (US 5580404) in view of Kogure et al (US 4649975).**

It is again noted that claim 29 fails to require a transverse notch width of greater than 1.6 mm. As to claims 32 and 40, it would have been obvious to incline sipes in the central blocks of Hitzky in the same direction as the central transverse grooves since Kogure et al, which like Hitzky discloses a four row block tread having "tie bars" between the blocks, suggests inclining straight sipes in the same direction as that of the

central grooves. As to claim 42, Kogure suggests sipes having a length within the claimed range of not less than 50% of the longer side.

5) **Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hitzky (US 5580404) in view of Japan '204 (JP 1-101204).**

It is again noted that claim 29 fails to require a transverse notch width of greater than 1.6 mm. As to claim 43, the claimed ratio would have been obvious since it is well known per se in the tread art to use sipes of different length in a block as shown by Japan '204.

6) **Claims 44-45 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hitzky (US 5580404) in view of Baumhofer et al (US 5308416).**

It is again noted that claim 29 fails to require a transverse notch width of greater than 1.6 mm. As to claims 44-45 and 48, it would have been obvious to align the sipe and shoulder grooves in view of the alignment of the sipes and shoulder grooves shown by Baumhofer et al. It is noted that claim 44 fails to require the notch and shoulder groove to have the same width. It is noted that claim 48 fails to require only alternate transverse grooves to form the second notches.

7) **Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hitzky (US 5580404) in view of Europe '884 (EP 485884).**

It is again noted that claim 29 fails to require a transverse notch width of greater than 1.6 mm. As to claim 46, it would have been obvious to use perpendicular sipes since Europe '884, which like Hitzky discloses locating blind sipes in the blocks suggests using perpendicular sipes to give traction on ice and good braking on wet

roads. It is noted that Claim 46 does not require the second notch to start in a circumferential groove.

**8) Claims 47, 50, 52 and 55-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hitzky (US 5580404).**

It is again noted that claim 29 fails to require a transverse notch width of greater than 1.6 mm. As to claim 47, the claimed spacing of 5-15 mm would have been obvious and could have been determined without undue experimentation in view of Hitzky's teaching to space blind sipes in a block - one of ordinary skill in the art readily understanding that the sipes in the central blocks improve traction. As to claim 50, the claimed pitch length would have been obvious depending on the desired tire size; it being noted that Hitzky teaches a pitch size of 26 mm. As to claim 52, it would have been obvious to stagger the pitches by  $\frac{1}{2}$  first pitch since it taken as well known in the tread art to offset pitches of adjacent rows to reduce noise. As to claim 55, it would have been obvious to provide the center block rows with the claimed width since (a) Hitzky suggests using center blocks having a width of 19-27% based on ground contacting tread width and (b) Hitzky suggests extending the tread pattern beyond the ground contacting width. As to claim 56, it would have been obvious to provide the tread of Hitzky as a premoulded tread band since it is well known / conventional per se in the tire art to apply a tread on a carcass as a premoulded tread band as an alternative to molding the tread after applying the tread to the carcass.

**9) Claims 51 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hitzky (US 5580404) in view of Europe '332 (EP 627332).**

It is again noted that claim 29 fails to require a transverse notch width of greater As to claims 51 and 53, it would have been obvious to use center blocks having a pitch twice that of the shoulder blocks since it is well known / conventional per se in the tread art to inner blocks having a length greater than that of shoulder blocks to reduce noise as evidenced for example by Europe '332. As to claim 53, Europe '332 clearly suggests the claimed rhomboidal shape.

Fontaine

10) **Claims 29-42, 44-45, 47, 49-50 and 52-56 rejected under 35 U.S.C. 103(a) as being unpatentable over Fontaine (WO 99/17944) in view of Graas et al (US 5088536) and Baumhofer et al (US 5308416).**

Fontaine, directed to increasing aquaplaning resistance, discloses a tire having two of the three claimed criteria. See figure 2. As to the first criteria, Fontaine discloses shoulder grooves inclined opposite that of central grooves. As to the second criteria, Fontaine teaches that the block width may be 25% of ground contacting tread width. As to the third criteria, Fontaine does not recite including notches in the center blocks.

As to the claim 29, it would have been obvious to one of ordinary skill in the art to form notches in the center blocks of Fontaine since Graas et al and Baumhofer et al (also directed to block pattern tread) suggest forming **blind grooves (notches)** in the blocks in order to improve wet performance of the tire. See figure 3 of Graas et al and col. 1 lines 36-38. See figure 1, col. 2 lines 26-28, col. 3 line 53 of Baumhofer et al.

The limitation of the first notch extending beyond the longitudinal median plane of the block would have been obvious in view of Graas et al 's suggestion to extend the blind

Art Unit: 1733

grooves a distance of  $\frac{1}{2}$  the axial width of the block + 20 %. See col. 3 lines 52-59. As to the notches opening to the central groove on the EP, Fontaine has a central circumferential groove and both Graas et al and Baumhofer et al show opening blind grooves (notches) to a center groove on the EP.

As to the dependent claims: As to claims 30-31, 34, 53, the limitations therein would have been obvious in view of the block shape shown by Fontaine. See figure 2. As to claims 32-33 and 35-42, 44-45, 47 and 54, the limitations therein would have been obvious in view of the suggestion from Graas et al and Baumhofer to form notches in the central blocks of Fontaine in order to improve wet performance. As to claim 49, Fontaine shows repeating pitches. See figure 2. As to claim 50, the claimed pitch length would have been obvious depending on the desired tire size; it being noted that Fontaine teaches using the tire for a vehicle such as a car. As to claim 52, it would have been obvious to stagger the pitches by  $\frac{1}{2}$  first pitch since it taken as well known in the tread art to offset pitches of adjacent rows to reduce noise. As to claim 55, it would have been obvious to provide the center block rows with the claimed width since (a) Fontaine suggests using center blocks having a width of for example 25% based on ground contacting tread width and (b) Graas suggests extending a tread pattern beyond the ground contacting width (figure 3). As to claim 56, it would have been obvious to provide the tread of Fontaine as a premoulded tread band since it is well known / conventional per se in the tire art to apply a tread on a carcass as a premoulded tread band as an alternative to molding the tread after applying the tread to the carcass.



**11) Claims 48 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fontaine (WO 99/17944) in view of Graas et al (US 5088536) and Baumhofer et al (US 5308416) as applied above and further in view of Minami (US 5526860).**

As to claim 48, it would have been obvious to align alternating shoulder grooves of Fontaine's non-directional tread with notches since Minami suggests aligning alternating shoulder grooves of a non-directional tread with notches so that the inner blocks may be longer to reduce noise.

As to claim 51, it would have been obvious to use center blocks having a pitch twice that of the shoulder blocks since it is well known / conventional per se in the tread art to inner blocks having a length greater than that of shoulder blocks to reduce noise as evidenced for example by Minami.

#### **Allowable Subject Matter**

**12) Claims 43 and 46 would be allowable if (1) rewritten in independent form including all of the limitations of the base claim and any intervening claims and (2) amended to include the subject matter disclosed at page 15 lines 12-13 (i.e. amended to additionally recite: --wherein the first transverse notch and the transverse grooves delimiting the central blocks have substantially the same width--. If this suggestion is adopted, the following change should be made to the specification to provide literal antecedent basis for the proposed claim language: On page 15 line 13, after "blocks 22." insert --In other words, the transverse notch 31 and the oblique grooves 31 have substantially the same**

**width.--. This insertion, which is reasonably conveyed by the original disclosure at page 15 lines 12-13 and original figure 5, would not be new matter.**

With respect to Hitzky and this indication of allowable subject matter: There is no motivation to widen the sipes of Hitzky so as to have substantially the same width and the center lateral grooves.

With respect to Fontaine and this indication of allowable subject matter: There is not motivation to further modify Fontaine such that (a) the ratio of the length of the second notch to the length of the first notch is 0.45:1 to 0.55:1 or (b) the first and second notches are substantially perpendicular to each other.

#### Remarks

13) Applicant's arguments filed 1-22-04 have been fully considered but they are not persuasive.

#### Hitzky

Applicant argues that Hitzky teaches sipes instead of notches. Applicant's argument is not persuasive and the 102 rejection stands since "notch" reads on "blind sipe".

After referring to the definitions of "sipe" and "notch" in the definitions for design class D12, applicants "...submit that 'sipe' and 'notch' are well known and precise terms indicating different elements in a tread design, and that these elements have dissimilar dimensions and functions". Applicant's argument based on the definition of "notch" in the definitions for design class D12 are not persuasive. First: The original disclosure, which fails to contain a special definition of "notch", does not refer to / incorporate by

reference the definitions in design class D12. Second: The terms "notch" and "sipe" are not mutually exclusive terms in the tire tread art. See for example US Patent 5833781 which describes (1) "[t]he notches are slots or sipes, etc. to ensure traction" (col.3 lines 31-32) and (2) "The notched part 33 of the first land 3 has 1.0 mm width" (col. 4 lines 34-35).

Applicant's arguments regarding the 103 rejection using Hitzky are not persuasive because, as mentioned above, "notch" reads on --sipe--.

#### Fontaine

Applicant argues that the figure 5 rib embodiment of Fontaine does not show the claimed notches. This argument is irrelevant since (1) the block embodiment of figure 2 of Fontaine shows blocks as claimed and (2) the secondary art to Grass et al and Baumhofer et al suggest forming the claimed notches Fontaine's blocks in order to improve wet performance of the tire.

Applicant argues that Grass et al does not disclose notches. The examiner disagrees. As can be seen from a cursory inspection of figure 3, each block 22-25 comprises two notches.

Applicant comments that groove 19 in Grass et al extends in two directions, with one end terminating in one block and the other end terminating in a second block. More properly, groove 19 defines a notch in one block one on side of the circumferential groove and a notch in another block on the other side of the circumferential groove; applicant having presented no convincing argument and/or evidence to the contrary.

Applicant's argument that the notches 25, 26 in Baumhofer et al do not extend beyond a longitudinal median plane of a respective central row of blocks is not persuasive since (1) Baumhofer et al is additional evidence of the desirability of forming two notches in each block of a block row and (2) Grass et al suggests that each notch may have a length more than  $\frac{1}{2}$  the axial width of the block row (see Grass et al at col. 3 lines 52-59).

14) **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

15) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

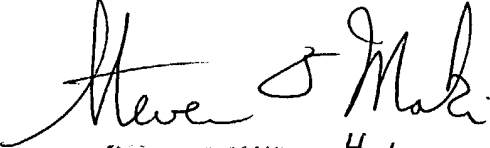
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone

Art Unit: 1733

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki  
April 10, 2004

  
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4-10-04